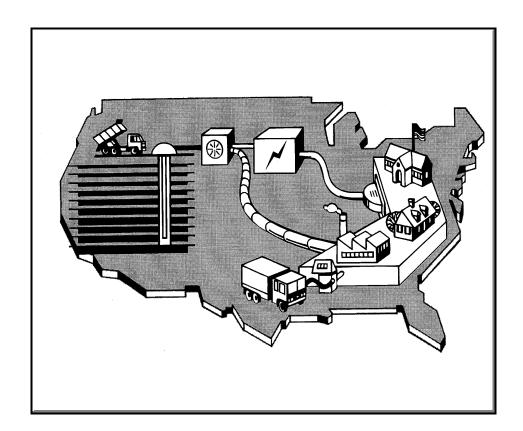


# **Landfill Gas-to-Energy Project Opportunities**

## **Landfill Profiles for the State of Utah**





## **EPA Landfill Methane Outreach Program**



The EPA Landfill Methane Outreach Program, a key component of the United State's *Climate Change Action Plan*, encourages the use of landfill gas (LFG) as an energy resource. EPA assists utilities,

municipal and private landfill owners and operators, tribes, and state agencies in reducing methane emissions from landfills through the development of profitable landfill energy recovery projects. Methane captured from landfills can be transformed into a cost-effective fuel source for electricity, heat, boiler and vehicular fuel, or sale to a pipeline. EPA estimates there are approximately 200 landfill methane recovery projects in the U.S. and that up to 750 landfills could install economically viable landfill energy projects.

The Landfill Methane Outreach Program includes five important components: the State Ally, Energy Ally, Industry Ally, Community Partner, and Endorser programs. EPA establishes separate alliances with state agencies, energy providers (including investor-owned, municipal and other public power utilities and cooperatives), key trade and public sector associations, members of the landfill gas development industry (including developers, engineers, equipment vendors, and others) and local communities, municipalities and landfill owner/operators through a Memorandum of Understanding (MOU). By signing the MOU, each Ally/Partner acknowledges a shared commitment to the promotion of landfill gas-to-energy recovery at solid waste landfills, recognizes that the widespread use of landfill gas will reduce emissions of methane and other gases, and commits to undertake activities to enhance development of this resource. In return, EPA agrees to provide landfill gas-to-energy project assistance and public recognition of the Allies' and Partners' participation in the program.

## Introduction

Since 1994 the U.S. EPA's Landfill Methane Outreach Program (LMOP) has participated in an ongoing effort to gather information on Municipal Solid Waste landfills (MSW). A key component of the LMOP is to provide MSW landfill owners and operators, project developers, utilities, and other potential project participants with information on MSW landfills that may offer attractive energy development opportunities. This document presents state specific landfill information, hereinafter referred to as the landfill profiles. These profiles are useful to evaluate the potential for developing landfill gas-toenergy projects (LFGTE). EPA assembled this information from state and local sources as well as various national solid waste publications, landfill owners and operators, and project developers.

The EPA has prepared a separate document to describe the methodology used to develop the state-specific landfill profiles and estimate the benefits of using LFGTE as an energy source. The document, Landfill Gas-to-Energy Project Opportunities, Background Information on Landfill Profiles, contains background information on gas collection and use, describes the data fields according to the five sections listed on the landfill profiles, and where applicable, illustrates calculations and default values used to derive estimates. EPA strongly recommends that users read the document prior to using the landfill profiles. Users can obtain the document by calling the LMOP hotline at 1-888-STAR-YES.

#### **Data Sources**

- EPA-ORD Landfill Gas Utilization-Survey (Thorneloe, 1997)
- Directory and Atlas of Solid Waste Disposal Facilities (SWA, 1994)
- Implementation Guide for Landfill Gas Recovery Projects in the Northeast (SCS, 1994)
- Landfill Gas-to-Energy 1994-1995 Activity Report (SWT, 1994)
- Methane Recovery from Landfill Yearbook (GAA, 1994)
- · Project developers, landfill owners, and operators
- · State and local records
- · Survey of Landfill Gas Generation Potential (EPRI, 1992)
- U.S. Landfill Directory (SWANA, 1992)

## **Landfill Classification**

To facilitate the use of available landfill information, EPA has categorized the landfills into five categories: Current Project, <sup>1</sup> Candidate Project, Shutdown, Other, and Unknown waste-in-place (WIP). These categories are based on the status of the landfill's LFGTE project(s) and WIP. The generation of methane is a function of many factors, the most critical being the amount of waste-in-place and the number of years the waste has been in the landfill. Peak methane generation occurs soon after closure; therefore, the longer the landfill has been closed, the less attractive it becomes for methane recovery. Based on the general timing of peak methane generation, EPA assumes that landfills that ceased accepting waste prior to 1993 have a low probability of generating enough methane to make a gas recovery project economical. Consequently, landfills need to be operating in 1993 to be considered as having a Candidate Project.

#### Landfill Categorizes

#### **Current Project:**

 Landfill with operational LFGTE project or landfill with LFGTE project under construction.

#### Candidate Project:

- Landfill with a potential or planned LFGTE utilization project; or
- Landfill is currently operating or closed after 1993; and has more than 1,000,000 tons of municipal solid waste-inplace.<sup>2</sup>

#### Shutdown:

· Landfill with shutdown LFGTE project.

#### Other

 Landfill has less than 1,000,000 tons of municipal solid waste-in-place with no current or planned LFGTE project.

#### Unknown WIP:

 Landfill with insufficient data to determine the waste-inplace

## **State Summary**

State-specific landfill profile information is summarized in three exhibits. Exhibit 1 presents a summary of the state-specific potential for LFG utilization energy by landfill category. Exhibit 2 summarizes the emissions avoided by fossil fuel displacement for electricity generation and direct use projects. Exhibit 3 presents an index of the state-specific MSW landfills, referenced by category, landfill name and general characteristics.

<sup>&</sup>lt;sup>2</sup> By modeling the relationship between WIP and methane generation, a cut-off of 1,000,000 tons of WIP was established; landfills having at least 1,000,000 tons of WIP are considered candidate landfills.



<sup>&</sup>lt;sup>1</sup> Current projects illustrate the wide range of successful project development options.

# **Exhibit 1: Utah MSW Landfill Summary**

Category	No. of	Est. Capacity Potential		Est. CH4	Methane F		CO2 Equivalent of CH4 Reduction (tons/yr)		
	Landfills	Electricity (MW)	Gas Capacity (mmBtu/hr)	Generation (mmscf/d)	(tons/yr)				
					Potential	Current	Potential	Current	
Candidate	9	42	416	13	77,024	0	1,617,502	0	
Other	35	9	90	3	16,716	0	351,026	0	
Unknown WIP	5								
Total	49	50	506	16	93,739	0	1,968,527	0	

## **Exhibit 2: Potential Utah Emissions Avoided by Fossil Fuel Displacement**

Category		Electricity Generation Project					Direct Use Project					
	CO2 (tons/yr)		SO2 (tons/yr)		CO2 (tons/yr)		SO2 (tons/yr)		yr)			
	Coal	Oil	Natural Gas	Coal	Oil	Natural Gas	Coal	Oil	Natural Gas	Coal	Oil	Natural Gas
Candidate	327,550	268,838	180,770	2,070	1,730	0	231,947	190,372	128,009	2,111	1,109	1
Other	69,457	57,007	38,332	439	367	0	50,336	41,314	27,780	458	241	0
Unknown WIP												
Total	397,006	325,844	219,103	2,509	2,097	0	282,283	231,685	155,789	2,569	1,350	2

## **Exhibit 3: Index of Landfills in Utah**

Category	Landfill Name		WIP		Landfill	LFG Collected	LFG	Status of LFGTE
Category	Landini Name		1		Operating in	Li o concetea	Utilization	Project
		<2.5 million tons	2.5 to 4 million tons	>4 million tons	1998		Project	,
Candidate	Bountiful City LF	<b>✓</b>			<b>✓</b>			Unknown
Candidate	Davis County Solid Waste Managemen	✓			<b>✓</b>			Unknown
Candidate	Duchesne County LF	<b>✓</b>			<b>✓</b>			Unknown
Candidate	Logan City LF	<b>✓</b>			<b>✓</b>			Unknown
Candidate	Salt Lake Valley LF			<b>✓</b>	<b>✓</b>			Unknown
Candidate	Transjordan LF			<b>✓</b>	<b>✓</b>			Unknown
Candidate	Uintah County/Vernal City LF		✓		<b>✓</b>			Unknown
Candidate	Washington County Solid Waste SSD #	<b>✓</b>			<b>✓</b>			Unknown
Candidate	Weber County LF			<b>V</b>	<b>✓</b>			Unknown
Other	Beaver County LF	<b>✓</b>			<b>✓</b>			Unknown
Other	Blanding LF	<b>✓</b>						Unknown
Other	Brigham City LF	<b>✓</b>						Unknown
Other	Carbon County LF	<b>✓</b>						Unknown
Other	City of Monticello LF	<b>✓</b>						Unknown
Other	Emery County LF	✓			<b>✓</b>			Unknown
Other	Garfield County/John's Valley LF	<b>✓</b>			<b>✓</b>			Unknown
Other	Garfield County/Ticaboo LF	<b>✓</b>			<b>✓</b>			Unknown
Other	Garrison LF	✓			<b>✓</b>			Unknown
Other	Grand County LF	<b>✓</b>			<b>✓</b>			Unknown
Other	Green River LF	<b>✓</b>						Unknown
Other	Grouse Creek LF	<b>✓</b>						Unknown
Other	Iron County/ Armstrong Pit LF	<b>✓</b>			<b>✓</b>			Unknown
Other	Kane County/Glendale LF	<b>✓</b>			<b>✓</b>			Unknown
Other	Kane County/Kanab LF	<b>✓</b>			<b>✓</b>			Unknown
Other	Manila City LF	✓						Unknown
Other	Millard County LF	<b>✓</b>			✓			Unknown
Other	Nephi LF	✓			✓			Unknown
Other	North Utah County Special Service Dist	✓						Unknown
Other	Park Valley LF	<b>✓</b>						Unknown
Other	Payson City LF	✓			✓			Unknown
Other	Provo LF	✓						Unknown
Other	Rich County LF	✓			✓			Unknown
Other	San Juan County/Bluff LF	<b>✓</b>						Unknown
Other	San Juan County/Halls Crossing LF	<b>✓</b>						Unknown
Other	San Juan County/Mexican Hat LF	<b>✓</b>						Unknown
Other	Sanpete SLF Coop	<b>✓</b>			<b>✓</b>			Unknown
Other	Santaquin County LF	<b>✓</b>						Unknown
Other	Sevier County/Sage Flat LF	<b>✓</b>			<b>✓</b>			Unknown
Other	Snowville LF	<b>✓</b>			<b>✓</b>			Unknown

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## **Exhibit 3: Index of Landfills in Utah**

Category	Landfill Name		WIP		Landfill	LFG Collected	LFG	Status of LFGTE	
		<2.5 million tons	2.5 to 4 million tons	>4 million tons	Operating in 1998		Utilization Project	Project	
Other	South Utah County SSD/Bayview LF	<b>✓</b>			<b>✓</b>			Unknown	
Other	Summit County/Three Mile Canyon LF	<b>V</b>			<b>✓</b>			Unknown	
Other	Tremonton LF	<b>V</b>						Unknown	
Other	Wendover City LF	<b>V</b>						Unknown	
Other	Yost LF	<b>V</b>						Unknown	
Unknown WIP	Callao LF				<b>✓</b>			Unknown	
Unknown WIP	Eskdale LF							Unknown	
Unknown WIP	Partoun LF							Unknown	
Unknown WIP	Tooele Army Depot LF #1							Unknown	
Unknown WIP	Tooele Army Depot LF #2							Unknown	

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			Bountiful City Ll	7		Landfill Category	: Candidate
		A. G	ENERAL LANDFILL INF		ION		
Landfill Owner:	City of	Bountiful	Ann	ual Accep	tance Rate (	tons):	36,438
Landfill Owner Type:	-			Year Annual Acceptance Rate Reported:			1994
Alternative Landfill N	lame:		Desi	Design Capacity (tons):			
City:	West B	ountiful	Acres Currently Landfilled (acres):			d (acres):	100
County:	Davis		Ave	age Depth	ı (feet):		
State:	UT		Was	te-in-Place	e (tons):		1,275,330
Year Open:	1962		1998	Waste-in	-Place (tons	y):	1,348,206
Year Closed:	2046						
		]	B. LANDFILL GAS COLI	ECTION			
Estimated Methane G	eneration (mmsc	f/d):		0.71			
LFG Collection System	m Status:						
Current LFG Collecte	d (mmscf/d):						
Collection and Treatm	nent System Requ	uired Under NSI	PS/EG:	No			
		(	C. LANDFILL GAS UTIL	IZATION	I		
Current Utilization:							
Utilization System	m Status:	Unknown					
Utilization System	m Type:	Unknown					
Utilization System	m Start Year:						
Electric Utility P	rovider(s):						
Natural Gas Prov	vider(s):						
Energy Purchase	r(s):						
Cit		F14-:-:	t Cti Dit (MW)		ND.	D:	)
Capacity:		Electrici	ty Generation Project (MW)		OR 	Direct Use Project (mmBtu/h	
Estimated Potent				2			22
Current Capacity							
Planned Capacity	<b>/</b> :						
Utilities in County:		Bountiful Ci	ty Light & Power Dept; Far	nington E	lectric Utilit	ty; Kaysville City Corp; Pacifi	corp; We
		D. ENVII	RONMENTAL BENEFITS	OF UTI	LIZATION		
			Potent	ial		Current	
   Methane Reduction (to	ons/vr)·		1 Otelli		4,078	Current	0
CO2 Equivalent of CH	= '	ns/vr)·			85,640		0
CO2 Equivalent of CI	Tr Reduction (10)				05,010		
Emissions Avoided by	Fossil Fuel Disp	olacement:	Electricity General	ion Projec	et	Direct Use Projec	ct
			CO2 (tons/yr)	SO2 (tor	ıs/yr)	CO2 (tons/yr) So	O2 (tons/yr)
		Coal:	17,364		110	12,281	112
		Fuel Oil:	14,252		92	10,079	59
						,	
	N	atural Gas:	9,583		0	6,778	0
			E. CONTACT INFORM	ATION		7 1011 -	
	T	Landfill	Owner			Landfill Operator	
Contact Name:	Mark Franc, E	ngineer		Mark	W. Franc		
Mailing Address:	1600 West 18t	h North		1600	West 18th N	Vorth	
	PO Box 369				ox 369		
Phone Number:	801-298-6125				98-6125		
	001-290-0123			301-2	70-0123		
Fax Number:							
* Itallicized indicates		1 ED4		hor 5 100	0	State: UT Dage	

 $<sup>* \ \</sup>textit{Itallicized indicates values estimated by EPA}.$ 

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Davis County Solid Waste Management SSD LF Landfill Category: Candidate A. GENERAL LANDFILL INFORMATION Landfill Owner: Wasatch Energy Systems Annual Acceptance Rate (tons): 48,425 Landfill Owner Type: Public Year Annual Acceptance Rate Reported: 1994 Alternative Landfill Name: Davis County LF Design Capacity (tons): City: Layton Acres Currently Landfilled (acres): 25 County: Davis Average Depth (feet): State: UT Waste-in-Place (tons): 1,840,150 Year Open: 1,937,000 1959 1998 Waste-in-Place (tons): Year Closed: 2022 **B. LANDFILL GAS COLLECTION** Estimated Methane Generation (mmscf/d): 0.80 LFG Collection System Status: Current LFG Collected (mmscf/d): Collection and Treatment System Required Under NSPS/EG: No C. LANDFILL GAS UTILIZATION Current Utilization: **Utilization System Status:** Unknown Utilization System Type: Unknown Utilization System Start Year: Electric Utility Provider(s): Natural Gas Provider(s): Energy Purchaser(s): Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr) Estimated Potential Capacity: 3 25 Current Capacity: Planned Capacity: Bountiful City Light & Power Dept; Farmington Electric Utility; Kaysville City Corp; Pacificorp; We Utilities in County: D. ENVIRONMENTAL BENEFITS OF UTILIZATION Potential Current Methane Reduction (tons/yr): 4,620 0 CO2 Equivalent of CH4 Reduction (tons/yr): 97.020 0 Emissions Avoided by Fossil Fuel Displacement: Electricity Generation Project Direct Use Project CO2 (tons/yr) SO2 (tons/yr) CO2 (tons/yr) SO2 (tons/yr) Coal: 19,732 125 13,913 127 Fuel Oil: 104 16,195 11,419 67 Natural Gas: 0 0 10.890 7,678 E. CONTACT INFORMATION Landfill Owner Landfill Operator Contact Name: LeGrand Bitter, Director LeGrand W. Bitter Mailing Address: 650 East Highway 193 650 East Highway 193 Phone Number: 801-771-3032 801-771-3032 Fax Number:

\* Itallicized indicates values estimated by EPA.

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Duchesne County LF Landfill Category: Candidate A. GENERAL LANDFILL INFORMATION Landfill Owner: Duchesne & Wasatch Counties Annual Acceptance Rate (tons): 18,948 Landfill Owner Type: Public Year Annual Acceptance Rate Reported: 1994 Alternative Landfill Name: Blue Bench Landfill Design Capacity (tons): 4,300,000 City: Duchesne Acres Currently Landfilled (acres): County: Duchesne Average Depth (feet): State: UT 1994 Waste-in-Place (tons): 2,337,896 Year Open: 1984 1998 Waste-in-Place (tons): 2,413,688 Year Closed: 2044 **B. LANDFILL GAS COLLECTION** 1.04 Estimated Methane Generation (mmscf/d): LFG Collection System Status: Current LFG Collected (mmscf/d): Collection and Treatment System Required Under NSPS/EG: No C. LANDFILL GAS UTILIZATION Current Utilization: **Utilization System Status:** Unknown Utilization System Type: Unknown Utilization System Start Year: Electric Utility Provider(s): Natural Gas Provider(s): Energy Purchaser(s): Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr) Estimated Potential Capacity: 3 32 Current Capacity: Planned Capacity: Moon Lake Electric Assn Inc; Pacificorp; Western Area Power Admin Utilities in County: D. ENVIRONMENTAL BENEFITS OF UTILIZATION

	Pote	ential	Current						
Methane Reduction (tons/yr):		5,986		0					
CO2 Equivalent of CH4 Reduction (tons/yr):		125,706		0					
Emissions Avoided by Fossil Fuel Displacement:	Electricity Gener	ration Project	Direct Use Project						
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)					
Coal:	25,257	160	18,026	164					
Fuel Oil:	20,730	133	14,795	86					
Natural Gas:	13,939	0	9,948	0					
	E. CONTACT INFORMATION								

Landfill Operator

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Landfill Owner

Contact Name:	George Adams, Solid Waste Manager	George Adams					
Mailing Address:	P.O. Box 228 Courthouse	P.O. Box 228 Courthouse					
Phone Number: Fax Number:	435-738-2417	435-738-2417					

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<sup>\*</sup> Itallicized indicates values estimated by EPA.

			Logan City LF	I.		Landfill Catego	rv: Candidate	
		A. G	ENERAL LANDFILL IN		ON	Zanajii Caiego	.,. Janaidute	
Landfill Owner:	City of				ance Rate (to	anc):	68,000	
Landfill Owner Type:	Public	Logan		-			1995	
· -	Alternative Landfill Name:			Year Annual Acceptance Rate Reported: Design Capacity (tons):				
City:					•	(nores):	2,893,588 85	
_	Logan Cache			Acres Currently Landfilled (acres): Average Depth (feet):				
County:	UT						1.510.202	
State:					-Place (tons)		1,510,203	
Year Open:	1964		199	8 Waste-in-	Place (tons).	!	1,646,203	
Year Closed:	2015	1	B. LANDFILL GAS COL	FCTION				
			D. LANDFILL GAS COL					
Estimated Methane Ge	_	f/d):		0.79				
LFG Collection System								
Current LFG Collected	,							
Collection and Treatm	ent System Requ			No				
			C. LANDFILL GAS UTII	LIZATION				
Current Utilization:								
Utilization Syster	m Status:	Unknown						
Utilization Syster	n Type:	Unknown						
Utilization Syster	n Start Year:							
Electric Utility Pa	rovider(s):							
Natural Gas Prov	ider(s):							
Energy Purchaser	r(s):							
Capacity:		Electrici	ty Generation Project (MW	) C	R	Direct Use Project (mmBt	u/hr)	
Estimated Potent	ial Capacity:			3			25	
Current Capacity:				3			23	
Planned Capacity								
таппес Сараску	•							
Utilities in County:		Bonneville I	Power Admin; Logan City N	/Junic Light	& Power; Pa	acificorp		
		D. ENVIE	RONMENTAL BENEFIT	S OF UTIL	IZATION			
			Poten	tial		Current		
Methane Reduction (to	ons/vr):		1 0.00.1		4,565	Current	0	
CO2 Equivalent of CH	- ·	ns/vr)·			95,857		0	
202 Equivalent of CII	- Treamenton (101				75,657			
Emissions Avoided by	Fossil Fuel Disp	olacement:	Electricity Genera	tion Projec	t	Direct Use Pro	ject	
			CO2 (tons/yr)	SO2 (ton	s/yr)	CO2 (tons/yr)	SO2 (tons/yr)	
		Coal:	19,732		125	13,746	125	
		Fuel Oil:	16,195		104	11,282	66	
	N	atural Gas:	10,890		0	7,586	0	
			E. CONTACT INFORM	IATION		.,	-	
		Landfill		IATION		Landfill Operator		
Contact Name:	Dogor Sunada			Doggr	Cunada			
			S.W. & Environmental Dir		Roger Sunada			
Mailing Address:	1800 West 200	) North		1800 West 200 North				
Phone Number:	801-750-9953			801_74	50-9953			
	001-700-7733			001-7.	,u-,,,,,,			
Fax Number:								

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Salt Lake Valley LF Landfill Category: Candidate A. GENERAL LANDFILL INFORMATION Landfill Owner: Salt Lake County Annual Acceptance Rate (tons): 915,428 Landfill Owner Type: Public Year Annual Acceptance Rate Reported: 1994 Alternative Landfill Name: Salt Lake County SWM Facility Design Capacity (tons): 25,807,106 City: Midvale Acres Currently Landfilled (acres): County: Salt Lake Average Depth (feet): Waste-in-Place (tons): State: UT 13,731,420 Year Open: 1982 1998 Waste-in-Place (tons): 15,562,276 Year Closed: 2020 **B. LANDFILL GAS COLLECTION** Estimated Methane Generation (mmscf/d): 4.40 LFG Collection System Status: Current LFG Collected (mmscf/d): Collection and Treatment System Required Under NSPS/EG: No C. LANDFILL GAS UTILIZATION Current Utilization: **Utilization System Status:** Unknown Utilization System Type: Unknown Utilization System Start Year: Electric Utility Provider(s): Natural Gas Provider(s): Energy Purchaser(s): Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr) Estimated Potential Capacity: 14 138 Current Capacity: Planned Capacity: Murray City Power Dept; Pacificorp; Western Area Power Admin Utilities in County: D. ENVIRONMENTAL BENEFITS OF UTILIZATION Potential Current Methane Reduction (tons/yr): 25,430 0 CO2 Equivalent of CH4 Reduction (tons/yr): 534,030 0 Emissions Avoided by Fossil Fuel Displacement: Electricity Generation Project Direct Use Project CO2 (tons/yr) SO2 (tons/yr) CO2 (tons/yr) SO2 (tons/yr) Coal: 108,131 684 76,579 697 Fuel Oil: 88,749 571 62,853 366 Natural Gas: 0 0 59,676 42,263 E. CONTACT INFORMATION Landfill Owner Landfill Operator Contact Name: Stephen Cooper Dan Bauer Mailing Address: 2250 South Redwood, Suite 7 P.O. Box 308 Phone Number: 801-974-6904 801-974-6920

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Candidate Transjordan LF Landfill Category: A. GENERAL LANDFILL INFORMATION Landfill Owner: Salt Lake County Annual Acceptance Rate (tons): 205,308 Landfill Owner Type: Public 1994 Year Annual Acceptance Rate Reported: Alternative Landfill Name: Design Capacity (tons): City: West Jordan Acres Currently Landfilled (acres): County: Salt Lake Average Depth (feet): State: UT Waste-in-Place (tons): 8,622,936 1998 Waste-in-Place (tons): Year Open: 9,033,552 1955 Year Closed: 2021 **B. LANDFILL GAS COLLECTION** 2.03 Estimated Methane Generation (mmscf/d): LFG Collection System Status: Current LFG Collected (mmscf/d): Collection and Treatment System Required Under NSPS/EG: No C. LANDFILL GAS UTILIZATION Current Utilization: **Utilization System Status:** Unknown Unknown Utilization System Type: Utilization System Start Year: Electric Utility Provider(s): Natural Gas Provider(s): Energy Purchaser(s): Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr) Estimated Potential Capacity: 6 63 **Current Capacity:** Planned Capacity: Utilities in County: Murray City Power Dept; Pacificorp; Western Area Power Admin D. ENVIRONMENTAL BENEFITS OF UTILIZATION

	Pote	ential	Current						
Methane Reduction (tons/yr):		11,737		0					
CO2 Equivalent of CH4 Reduction (tons/yr):		246,471		0					
Emissions Avoided by Fossil Fuel Displacement:	Electricity Gene	ration Project	Direct Use Project						
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)					
Coal:	49,724	314	35,343	322					
Fuel Oil:	40,812	263	29,008	169					
Natural Gas:	27,442	0	19,506	0					
	E. CONTACT INFORMATION								

Landfill Owner

1							
Contact Name:	Romney Stewart	Romney Stewart					
Mailing Address:	10640 S. 7250 W	10640 S. 7250 W.					
Phone Number: Fax Number:	801-569-8994	801-569-8994					

<sup>\*</sup> Itallicized indicates values estimated by EPA.

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Landfill Operator

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Uintah County/Vernal City LF Candidate Landfill Category: A. GENERAL LANDFILL INFORMATION Landfill Owner: Uintah County and Vernal City Annual Acceptance Rate (tons): 59,000 Landfill Owner Type: Public 1994 Year Annual Acceptance Rate Reported: Alternative Landfill Name: Design Capacity (tons): City: Vernal Acres Currently Landfilled (acres): County: Uintah Average Depth (feet): State: UT Waste-in-Place (tons): 2,773,000 Year Open: 1950 2,891,000 1998 Waste-in-Place (tons): Year Closed: 2008 **B. LANDFILL GAS COLLECTION** 0.88 Estimated Methane Generation (mmscf/d): LFG Collection System Status: Current LFG Collected (mmscf/d): Collection and Treatment System Required Under NSPS/EG: No C. LANDFILL GAS UTILIZATION Current Utilization: **Utilization System Status:** Unknown Unknown Utilization System Type: Utilization System Start Year: Electric Utility Provider(s): Natural Gas Provider(s): Energy Purchaser(s): Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr) Estimated Potential Capacity: 3 28 **Current Capacity:** Planned Capacity: Utilities in County: Moon Lake Electric Assn Inc; Pacificorp; Western Area Power Admin D. ENVIRONMENTAL BENEFITS OF UTILIZATION

	Pote	ential	Current						
Methane Reduction (tons/yr):		5,089		0					
CO2 Equivalent of CH4 Reduction (tons/yr):		106,861		0					
Emissions Avoided by Fossil Fuel Displacement:	Electricity Gener	ration Project	Direct Use Project						
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)					
Coal:	22,100	140	15,324	139					
Fuel Oil:	18,139	117	12,577	73					
Natural Gas:	12,197	0	8,457	0					
	E CONTACT INFORMATION								

#### E. CONTACT INFORMATION

Landfill Operator

State: UT

Page:

	•								
Contact Name:	Douglas Slaugh, Commissioner	Douglas Slaugh							
Mailing Address:	152 East 100 North	152 East 100 North							
Phone Number: Fax Number:	435-781-0770	435-781-0770							

<sup>\*</sup> Itallicized indicates values estimated by EPA. December 5, 1998

Landfill Owner



STAR Version 1.0 / LMOP

Washington County Solid Waste SSD #1 LF Landfill Category: Candidate A. GENERAL LANDFILL INFORMATION Landfill Owner: Washington County Annual Acceptance Rate (tons): 68,000 Landfill Owner Type: Public Year Annual Acceptance Rate Reported: 1994 Alternative Landfill Name: Washington County LF Design Capacity (tons): City: Washington Acres Currently Landfilled (acres): County: Washington Average Depth (feet): State: UT Waste-in-Place (tons): 1,292,000 Year Open: 1978 1,428,000 1998 Waste-in-Place (tons): Year Closed: 2067 **B. LANDFILL GAS COLLECTION** Estimated Methane Generation (mmscf/d): 0.78 LFG Collection System Status: Current LFG Collected (mmscf/d): Collection and Treatment System Required Under NSPS/EG: No C. LANDFILL GAS UTILIZATION Current Utilization: **Utilization System Status:** Unknown Utilization System Type: Unknown Utilization System Start Year: Electric Utility Provider(s): Natural Gas Provider(s): Energy Purchaser(s):

Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)

Estimated Potential Capacity: 2 25

Current Capacity: Planned Capacity:

Utilities in County: Dixie Escalante R E A Inc; Enterprise Electric Dept; Garkane Power Association Inc; Hurricane City

D. ENVIRONMENTAL BENEFITS OF UTILIZATION									
	Potential		Current						
Methane Reduction (tons/yr):		4,528		0					
CO2 Equivalent of CH4 Reduction (tons/yr):		95,094		0					
Emissions Avoided by Fossil Fuel Displacement:	Electricity Generation Project		Direct Use Project						
	CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)					
Coal:	18,943	120	13,637	124					
Fuel Oil:	15,547	100	11,192	65					
Natural Gas:	10,454	0	7,526	0					
E. CONTACT INFORMATION									

	Landfill Owner	Landill Operator	
Contact Name:	Shirley Kelley, Manager	Kory Coleman	
Mailing Address:	260 West St. George Blvd #205	557 N Industrial Road	
Phone Number: Fax Number:	435-673-2813	435-628-2821	

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<sup>\*</sup> Itallicized indicates values estimated by EPA. December 5, 1998 State: UT Page: 8



Γ			W.I. C I.F.		I ICH C	C Pl		
		A G	Weber County LF ENERAL LANDFILL INFO		Landfill Cates	gory: Candidate		
Landfill Owner:	Weber Public	County	Annual Acceptance Rate (tons): 177,727  Year Annual Acceptance Rate Reported: 1994					
Landfill Owner Type: Alternative Landfill N				gn Capacity (tons):	Rate Reported:	1994		
City:			-	d (neres):	5,808,000			
City:	Ogden Weber		Acres Currently Landfilled (acres):					
State:	UT		Average Depth (feet):  1994 Waste-in-Place (tons):  5,474,324			5,474,324		
Year Open:	1966					6,185,232		
Year Closed:	2007		1998 Waste-in-Place (tons): 6,185,			0,103,232		
Tear Closed.	2007		B. LANDFILL GAS COLL	ECTION				
Estimated Methane Ge	maration (mmsa			1.90				
LFG Collection System	· · · · · · · · ·	// <i>u</i> ).		1.50				
Current LFG Collected								
Collection and Treatm		iired Under NSI	PS/FG·	No				
Concetion and Treatm	ent bystem Requ		C. LANDFILL GAS UTILI					
C TIVII								
Current Utilization:	C	T.T. 1						
Utilization Syster		Unknown						
Utilization System		Unknown						
Utilization System								
Electric Utility Pr Natural Gas Provi								
Energy Purchaser	* *							
Energy Furchaser	(8).							
Capacity: Electricity Generation Project (MW) OR Direct Use Project (mmBtu/hr)								
Estimated Potenti	ial Capacity:			6		59		
Current Capacity:	:							
Planned Capacity	:							
Utilities in County:		Pacificorp; V	Western Area Power Admin					
		D. ENVII	RONMENTAL BENEFITS	OF UTILIZATION				
			Potenti		Currer	nt .		
   Methane Reduction (to	mchr).		1 Otenti	10,992	Currer	0		
CO2 Equivalent of CH	- ·	ache).		230,824		0		
CO2 Equivalent of CII	4 Reduction (to	us/ yr ).		230,624		0		
Emissions Avoided by Fossil Fuel Displacement:		Electricity Generation Project		Direct Use Project				
			CO2 (tons/yr)	SO2 (tons/yr)	CO2 (tons/yr)	SO2 (tons/yr)		
		Coal:	46,567	294	33,100	301		
Fuel Oil:		38,220	246	27,167	158			
Natural Gas:		25,700	0	18,267	0			
			E. CONTACT INFORMA	ATION				
		Landfill	Owner		Landfill Operator			
Contact Name:	Karlene Linford, Dir. of Waste Disposal		Karlene Linford					
Mailing Address:	2510 Washingt	10 Washington Boulevard		2599 A Avenue				
Phone Number:	801-399-8401			801-399-8806				
Fax Number:								

\* Itallicized indicates values estimated by EPA. December 5, 1998 State: UT Page: 9

